

Railway and Public Utility Bond Defaults, 1929-34

Donald C. Hartom, Chief, Debt Section, Division of Economic Research

The Volume and Character of Defaults

ONE significant manifestation of the economic disorganization incident to the depression has been the difficulties experienced by many corporations in meeting their debt service charges and maturities, and the resulting large increase in the volume of bonds in default. The complexity of the default problem, coupled with the lack of adequate information, makes it impossible to give an exhaustive analysis of the situation; but it is possible to throw some light on certain pertinent questions relative to railway and public utility bond defaults. In this article the following topics will be considered to the extent that space and available information permit:

1. The volume and character of railway and public utility defaults during the depression years.
2. The extent to which defaults have been remedied during this period.
3. The amount of unpaid interest on these obligations.

Much of the original data used in the analysis has been taken from the annual tabulations of the *Wall Street Journal* showing bonds in default of interest on November 1. These tabulations exclude defaulted issues of \$200,000 or less and, in the case of the railways, defaults on equipment trust obligations. An attempt is made, also, to exclude issues held in the treasuries of the various corporations or pledged as security for other issues. An examination of the data for particular issues in default revealed some evidence of increasing inclusiveness, but corrections have been made to render more comparable the several annual tabulations. The figures presented here represent the approximate magnitude of the several items rather than exact totals.

The public utility industry entered the depression with a volume of bonds in default of interest not only larger absolutely than the volume of defaulted railway bonds but also larger in relation to the total long-term debt. On November 1, 1928, public utility bonds in this category were in default to the amount of about \$280,000,000, representing slightly more than 2 percent of the total public utility long-term debt at that time. Electric railway issues constituted a large portion of the amount in default. Railway bonds in default of interest on the same date amounted to approximately \$100,000,000, or slightly less than 1 percent of the long-term debt of class I railroads. By the end of 1934, however, the situation was reversed. Railway bonds were in default to the amount of approximately \$1,500,000,000, or about 14 percent of the long-term debt of class I railroads, while the total of public utility bonds in default on the same date amounted to approximately \$875,000,000, or slightly over 6 percent of the total utility long-term debt.

In order to eliminate the influence of predepression defaults, all bonds defaulted prior to November 1, 1928, were excluded from the original tabulations. Item 1 of table 1, accordingly, shows only those bonds in default on November 1 of each year which were defaulted since November 1, 1928. All of the issues entering into the totals shown in item 1 were in default of interest, and a part of the issues, as shown in item 2, were in default of principal also. Bonds in default of principal only were omitted in the original tabulations, and hence do not enter into the totals shown in table 1.

It will be noted that the high point for the public utility defaults accumulated during the depression

Table 1.—Railway and Public Utility Bond Defaults, 1929-34

(In thousands of dollars)

Item	Railways (year ended Nov. 1)						Public utilities (year ended Nov. 1)					
	1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
1. Bonds in default of interest at end of year (exclusive of bonds defaulted prior to Nov. 1, 1928).....	11,073	11,073	211,651	365,006	1,442,728	1,456,124	32,744	103,263	209,156	637,731	744,813	616,656
2. Portion of item 1 in default of principal.....	0	0	12,006	32,080	41,539	293,796	9,870	12,167	16,661	162,679	132,006	141,432
3. Amount defaulted during year and not remedied by end of year.....	11,073	0	200,578	143,340	1,066,033	129,212	32,744	70,405	132,257	476,556	290,531	69,293
4. Amount removed during year from previous year's default list (item 3).....	0	0	0	0	8,311	116,617	0	5,767	20,451	49,923	183,449	203,246
5. Amount in default Nov. 1, 1934 (item 3), by years in which default occurred.....	4,187	0	189,180	129,085	1,066,033	129,212	23,207	30,620	68,008	246,182	173,610	69,293
6. Item 5 reduced to percentage basis.....	0.3	0	12	8.9	68.9	8.9	3.6	6.0	10.7	40.8	28.4	11.3
7. Percentage of bonds defaulted during year (item 3) still in default Nov. 1, 1934.....	37.9	0	94.3	80.7	91.6	100	70.9	20.9	51.6	52.1	59.8	100
8. Estimated accrued interest on defaulted bonds at end of year (item 1).....	378	1,040	12,301	31,327	94,956	184,184	1,393	4,436	27,474	46,890	81,796	63,293
9. Annual interest charge on defaulted bonds at end of year (item 1).....	664	664	11,186	19,404	66,484	62,665	1,821	5,573	12,922	37,440	42,479	34,023
10. Average coupon rate of defaulted bonds at end of year (item 1).....	6.00	6.00	5.28	5.46	4.75	4.72	5.66	5.40	5.75	5.67	5.70	5.88

(item 1) was reached in 1933, whereas the accumulated total of railway defaults rose still higher in 1934. Item 3, showing the amount defaulted during the year and not remedied by the end of the year, affords a rough measure of the volume of bonds defaulted during particular years. Railway defaults were especially heavy in the year 1933, as evidenced by the fact that approximately 68 percent of all railway defaults during the period, 1929-34, occurred in that year. Utility defaults were distributed more evenly throughout the period, but approximately 45 percent of the total occurred in 1932. The volume of both railway and public utility defaults in 1934 was much smaller than in 1933.

An examination of the data relative to the volume of bonds in default of principal as well as interest reveals certain significant contrasts between the railways and utilities. Item 2 shows the portion of item 1 that was in default of principal and interest on November 1 of each year. Although bonds in default of principal only are not included in item 2, the volume of such issues is so small in relation to the total that their inclusion is not necessary for the purpose of this analysis. It will be noted that utility defaults on principal increased markedly in 1932, whereas railway defaults on principal did not reach large proportions until 1934. The small volume of railway defaults on principal in 1932 and 1933, as compared with the volume of utility defaults on principal for these years, is accounted for largely by the action taken by the Government to strengthen the credit of the railways. At the end of 1933, Reconstruction Finance Corporation loans to railways, less repayments, amounted to approximately \$337,000,000, an amount equal to about one-third of the maturities of the railways for the period, 1921-33.

Railway maturities for the period 1929-34, according to the *Wall Street Journal*, amounted to about 2½ billion dollars. The volume of railway bonds that were defaulted as to principal during the period 1929-34, and were still in default at the end of 1934, amounted to \$203,196,000, as shown in item 2. The latter figure constitutes about 9 percent of railway maturities for the 6-year period. Public utility maturities for the 6-year period amounted to about \$1,800,000,000, and the volume of utility bonds defaulted as to principal during the period and still in default at the end of 1934 accounts for about 8 percent of the total utility maturities. The percentages of maturities defaulted during the period 1929-34 are higher than those mentioned above because some defaulted maturities had been removed from the default list before November 1, 1934, and other maturities were defaulted but interest payments were maintained.

Coupon Rates

Railway and public utility bonds defaulted during the depression have carried, on the average, somewhat higher coupon rates than bonds on which interest was

being paid. The weighted average coupon rate of railway bonds defaulting during the period covered, and still in default on November 1, 1934, was 4.73, and the comparable average coupon rate for utility defaults was 5.58 percent. The average coupon rate of railway bonds paying interest, as of December 31, 1934, was 4.53 percent. Sample data on the utilities indicate that the spread between the average rate carried by bonds in default and those paying interest is as great as for railway bonds.

Table 2 shows separately the public utility operating and holding company bonds defaulted during the period under review, and still in default on November 1, 1934, by the years in which default occurred. Over 30 percent of the operating company bonds defaulted and still in default at the end of 1934 went into default prior to November 1, 1931, whereas only 3 percent of the holding company defaults had occurred by that time. About 55 percent of the holding company bonds in default on November 1, 1934, went into default in 1932. The \$250,447,000 of holding company bonds in default represent approximately 10 percent of the total long-term debt of public utility holding companies, whereas the \$360,382,000 of operating company bonds in default constitute only slightly more than 3 percent of the total long-term debt of public utility operating companies.

Table 2.—Distribution of Public Utility Operating and Holding Company Bonds Defaulted Since Nov. 1, 1928, and Still in Default on Nov. 1, 1934, by Years in Which Default Occurred

Year of default	Amount (in thousands of dollars)		Percentage	
	Operating companies	Holding companies	Operating companies	Holding companies
1929.....	23,907	0	5.4	0
1930.....	30,530	0	8.5	0
1931.....	57,506	7,392	16.8	3.0
1932.....	111,505	127,337	31.0	54.9
1933.....	108,706	87,905	30.3	27.1
1934.....	31,845	37,443	8.9	14.9
Total.....	360,382	250,447	100.0	100.0

Defaults Remedied During the Depression

Unfortunately, the available statistics are not well adapted to show precisely the volume of bond defaults remedied during a given period; and no comprehensive statistics have been compiled which reveal the extent to which defaults have been remedied by resumption of interest payments, reorganization, foreclosure, etc. It is possible, however, to obtain a rough measure of the volume of defaults remedied during a given period by determining the volume of bonds removed from the default list of a particular year by the end of the succeeding year (item 4, table 1).

Using this method of measurement, it was found by data not included in the table that roughly 50 percent of the railway bonds in default on November 1, 1928, and approximately the same percentage of public utility bonds, had been removed from the default list by November 1, 1934. This similarity in

the rates of default adjustment does not hold, however, in the case of defaults occurring since November 1, 1928. Item 7 shows the percentage of the bonds defaulted in each year, 1929-33, that were still in default on November 1, 1934. The percentages for the years 1931-33 are of most significance, because the majority of the bond defaults occurred in these years. It will be noted that over 90 percent of the railway bonds defaulted in each of these years were still in default on November 1, 1934. For the utilities, however, the percentages of bonds defaulted during these 3 years that were still in default on November 1, 1934, fall within the range of 50 to 60 percent. Only about 9 percent of the railway bonds defaulted during the entire period, 1929-33, had been remedied by the end of 1934, while the comparable figure for the utilities was over 46 percent.

The Amount of Unpaid Interest

Item 8 shows the accrued defaulted interest on bonds defaulted since November 1, 1928, and still in default on November 1 of the years for which the data are given. In making these estimates it is assumed that each bond was in default of 6 months' interest on the date of default. The total of \$154,164,000 for the railways on November 1, 1934, accordingly, represents the accrued interest in default on railway bonds defaulted between November 1, 1928, and November 1, 1934, and still in default on the latter date. This figure, however, fails to show the total amount of unpaid interest traceable to railway bond defaults during this period, because it does not include unpaid interest on bonds defaulted during the depression but removed from the default list prior to November 1, 1934. Since it was in 1934 that most of the eliminations from the railway default list occurred, it is probable that a substantial amount of interest that was not paid when default was terminated is excluded from the above figure.

Additional light is thrown on the question of the amount of unpaid interest traceable to railway defaults during the depression by item 9 which shows the annual interest charge on bonds defaulted since November 1, 1928, and still in default on November 1 of each year. The total for the 6 years amounts to \$169,348,000. By accumulating the annual totals in this manner, it is possible to include the major portion of the unpaid interest excluded in the previous total of \$154,164,000. The amount still excluded is the interest for a part of a year on bonds in default on November 1 but removed from the default list during the following year. However, the figure of \$169,348,000 is too inclusive, because bonds defaulting in the particular year for which the annual interest charge is computed had not on the average accumulated a full year's unpaid interest by the end of the

year. By tabulating the bonds defaulted each year according to whether default occurred in the first or second half of the year, it was found that about 45 percent were defaulted in the 6 months ended May 1 and 55 percent in the six months ended November 1. Thus the estimate of \$169,348,000 is probably inflated from 2 to 3 percent by this factor. It is inflated also to the extent that any accrued interest in default was paid at the time the default was terminated. In view of these considerations it does not appear unreasonable to conclude that the unpaid interest resulting from the railway bond defaults of the 6 years amounted to as much as \$165,000,000.

It is impossible to estimate with a high degree of accuracy the amount of unpaid interest traceable to public utility bond defaults during the depression. The figure of \$93,263,000 (item 8, table 1), representing interest in default on bonds defaulted after November 1, 1928, and still in default on November 1, 1934, obviously excludes a large amount of unpaid interest on bond defaults adjusted prior to 1934. Over 46 percent of the utility bonds defaulted from 1929 to 1933 were removed from the list by November 1, 1934, and unpaid interest on these bonds is not included in the above figure. A case study of the larger issues removed from the default list indicates that in only a few cases were defaulted coupons paid when the default was terminated, and in these cases the payment of interest was usually associated with a reorganization in which the bondholders received less attractive securities. On the other hand, the total of the annual interest charges on bonds defaulted since 1928 and still in default at the end of the year, amounting to \$133,402,000, is subject to the same qualifications as the figure of \$169,348,000 for the railways. Since over 60 percent of the defaults during the period 1929-34 occurred in the last half of the year, it is probable that 5 percent too much interest is included because of this factor. The above overstatement is offset, however, by the failure to include interest on bonds for the part of a year between the November 1 on which default is last shown and the date on which default was terminated.

While a definite estimate of the total unpaid interest on public utility bonds defaulted during the depression would be fraught with possibilities of error, it may be said with reasonable assurance that the total probably lies between \$120,000,000 and \$130,000,000. When account is taken of the fact that some defaulted issues are excluded from both the railway and the public utility lists, it appears that the total utility and railway unpaid interest on defaults since November 1, 1928 approached \$300,000,000 by the end of 1934. Although large the total represents absolutely, less than 4 percent of the total interest charges on the railway and utility funded debt for the 6 years 1929-34.